Federal Communications Commission En Banc Hearing On Universal Service February 19, 1998

Statement of George Vradenburg, III Senior Vice President, America Online, Inc. CC Docket No. 96-45

Good afternoon, Chairman Kennard, Commissioners Ness, Tristani, Powell and Furchtgott-Roth, thank you for the opportunity to appear before you to discuss the important issue of Universal Service and the future availability of telecommunications and advanced services to all Americans.

Let me state at the onset that America Online supports the goals of universal service — and the social contract that all Americans should have access to basic telecommunications service at affordable prices. Indeed, those basic telecommunication services provide the infrastructure for access to advanced services such as the Internet. As we enter the next millennium, we believe universal access to the Internet at affordable prices will be seen as just as critical to the social advancement of our people as was universal access to voice telephony in this century. The next generation of American workers, now our nation's school children, must have access to the vast resources found on the Internet if they are going to be able to compete in the global economy of the 21st Century. The universal service program that you have implemented will help ensure that America is ready to meet the challenges not only of today but also of tomorrow.

In implementing the universal service provisions of the 1996 Act, three overarching policy goals have guided the Commission:

- ensuring that universal service is preserved and advanced for all Americans;
- fostering a competitively neutral environment that promotes diversity and choice for universal service beneficiaries; and
- facilitating a robust market for advanced, high-performance and innovative services for all Americans.

The Internet has emerged over the past few years as, perhaps, the most important driver of our Nation's economic growth. Not only has the industry grown at an unprecedented pace, it has contributed significantly to innovation and growth in other industries that rely on information technology and the Internet for the delivery of information, goods and services. Many recent studies highlight the extraordinary impact that the explosive growth of advanced services has had on the American economy.

• Today, the information technology sector is estimated represent 50 percent of the nation's incremental economic growth.

- Internet business alone added \$200 billion to the 1996 Gross Domestic Product, with information technology and information technology-dependent business now accounting for almost \$1 trillion of the U.S. economy.
- Continued development of the Internet's full potential could account for 50-70 percent of new jobs by the year 2005.
- And, of course, American businesses currently benefit disproportionally from the growth of the Internet with concomitant benefits to our Nation's trade balance.

As the Commission recognized last year, this contribution to economic growth clearly would not have occurred had the Internet industry been hampered by burdens of telephone-like regulation or access charges. Instead, competition has kept innovation moving at lightening speed and has brought prices for Internet access down to levels that are affordable for middle class Americans. Without this fierce competition, this country's workers and citizens most assuredly would have seen fewer jobs and less prosperity and America would not be leading the rest of the world in the development of this new technology.

It is critical, therefore, as the Commission examines the regulatory structure of universal service that it not heed suggestions to burden the Internet with regulation. Indeed, the 1996 Act was intended to diminish government intervention in all communications sectors, not to bring new and innovative industries into the fold of an outmoded regulatory regime designed for monopoly environments.

Nevertheless, there have been suggestions that the universal service regime and, by extension, common carrier regulation should be imposed upon the Internet. AOL believes that this would not only send precisely the opposite messages regarding the role of regulation envisioned by Congress, it is also inconsistent with the plain language of the 1996 Act and therefore not within the Commission's discretion.

The Act makes clear that the universal service provisions must be implemented on a competitively neutral basis and that <u>only</u> telecommunications providers are subject to common carrier regulation and can be required directly to contribute to the universal service fund. The Commission's implementation of the Act took both of these commands into account.

First, the Act requires competitive neutrality. The FCC could have approached this in two ways: by excluding Internet access from the bundle of services available to our nation's children through schools and libraries, or by including Internet access and permit all providers to participate. What the Commission was not able to do under the Act was to include Internet access but permit only telecommunication carriers to provide that access. The Commission chose wisely, understanding that for our nation's schools and libraries to have access to vast resources of the Internet, that they must be able to receive discounted services for both Internet access and telecommunications services. Through this approach, the FCC noted it could "empower schools and libraries to take the fullest advantage of competition to select the most cost-effective provider of Internet access and internal connections, in addition to telecommunications services" rather than require "schools and libraries to procure these

supported services Internet access and internal connections] only as a bundled package with telecommunications services."

This outcome not only conforms to the plain language of the 1996 Act, but is sound public policy that will best serve the interests of our schools and libraries and the citizens they serve. To limit the range of service providers only to telecommunications carriers would not only create an environment where non-carriers could not compete, but, more importantly, would limit the choices of schools and libraries in pursuing their educational goals.

Second, the Commission correctly recognized that the plain language of the 1996 Act does not contemplate that providers of "enhanced" or information services would contribute to the universal service fund directly. However, those providers, like other businesses use telecommunications services to reach their customers. As such, enhanced service providers already support universal service through the rates they pay to telecommunications carriers. For example, a significant percentage of America Online's costs are related to the purchase and lease of the telecommunications capabilities we need to enable our customers to take advantage of the information services we provide. All of the charges we pay include universal service contributions. Such is also the case with a business like United Airlines, which now provides software for customers to dial in to their network for airline schedules and reservations via computer. In fact, the Commission should do more to make these charges explicit to illustrate just how significant the contribution of online businesses really is to the universal service framework.

Congress, in an effort to codify the market-driven policies that the Commission had been putting into place over the past decade, specifically defined "telecommunications services" and "information services" in the Act. Both of these terms have a specific meaning and, while they bear a close relationship to each other, they are clearly distinct. An "information service" is the offering of a capability for "generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications." It is critical to note that the definition of "information service" refers to "telecommunications" as the medium by which information services are offered. Telecommunication services are regulated; information services are not – reflecting the historic distinction between basic and enhanced services.

While we believe that these definitions are clearly settled, there has been some debate about the classification of ISPs due, in part, to the media attention being paid to Internet telephony. As with the advent of many new technologies over the years, there are apochrophal statements by entrenched incumbent service providers that new services will threaten to fell their businesses. Yet, as television did not kill movie theaters, as cable did not kill broadcasting and the movie industry has thrived in home video, it is more likely that Internet telephony will simply drive innovation and competition in the telephony marketplace and grow that market in a manner where incumbents and new comers alike can prosper.

In addition, while Internet telephony offerings may compete with those of telecommunications carriers in the future, such is not the case today. Indeed, Internet telephony offerings are only now being announced. Furthermore, there is no market data of sufficient

clarity or reliability to provide a confident basis for making regulatory decisions today. And, there is certainly no evidence that Internet telephony applications are giving any telecommunications carrier a run for its money.

Instead, Internet telephony should be viewed by the Commission as just one more potential innovation in the world of the Internet, a network of networks whose innovations have added billions of dollars to the U.S. economy and spurred productivity advances in a multiplicity of business sectors. It would be grossly premature to address concerns about IP telephony service today. What is clear, however, is that the outmoded regulatory regime that the 1996 Act was intended to replace is not the answer to the theoretical threat of Internet telephony to the telecommunications marketplace.

Again, AOL believes that the Commission's 1997 decision on universal service was consistent with both the language and purpose of the Telecommunications Act of 1996. Any attempt to modify the decision in a manner which would subject the Internet to regulation would be both inconsistent with congressional intent and have potentially far reaching implications for the future of this important medium.

I appreciate the opportunity to comment on these important issues today and am happy to answer any questions.

David Hostetter District Manager-Access Policy SBC Communications Inc.

David Hostetter is currently a District Manager-Access Policy for SBC Communications Inc. In this capacity, Mr. Hostetter is responsible for the development of regulatory policies for issues such as access pricing flexibility, universal service, forbearance and interconnection. Mr. Hostetter has chaired several USTA work efforts to revise the access charge rules through access reform and to develop positions on universal service mechanisms that would comply with the Act. Mr. Hostetter became a member of SBC's regulatory group in 1984. During this time he has held a variety of regulatory positions for SBC including responsibility for access tariffs and has served as a member of SBC's Washington, D.C. office. Mr. Hostetter is graduate of the University of Texas at Austin.

- There are many complex universal service issues facing the FCC the most difficult issues are most likely still to come
- FCC should rely upon four principles contained in the Act to simplify its problem solving process
 - 1. Section 254(i) requires the FCC and the States to ensure that universal service is available at affordable rates
 - 2. Section 254(e) specifies that only eligible telecommunications carriers are entitled to receive support and Section 254(h) limits support to telecommunications carriers when they provide universal service to qualifying schools and libraries
 - 3. Section 254(d) requires all telecommunications carriers providing interstate telecommunications services to contribute to federal universal service mechanisms
 - 4. Section 254(e) specifies that support should be explicit and sufficient

- Voice over the Internet and the enhanced service provider (ESP) exemption issues have the potential to threaten the viability of affordable universal service
- The initial deployment of Internet telephony has been targeted at consumers seeking to reduce their traditional interstate and international long distance service charges; however, consumers will continue to access Internet telephony primarily through the local exchange segment of the public switched telephone network (PSTN)
- Internet Service Providers argue that Internet telephony is an information service to avoid contributing to federal support mechanisms acceptance of this argument jeopardizes competitive neutrality because interstate and international services provided through traditional technologies would continue to fund universal service
- The ESP exemption further compounds the competitive neutrality problem because:
 - 1. Internet Service Providers incur lower costs by paying local business line rates for their interstate access interexchange carriers pay higher interstate access charges
 - 2. Access charges provide funding to maintain affordable universal service

- Interexchange carriers will formulate their business plans to take advantage of the same ground rules Internet Service Providers are attempting to finesse
- Studies project that approximately 34% of existing long distance traffic may be carried over the Internet by 2005
- The FCC should not establish a competitive advantage for Internet Service Providers to the detriment of affordable universal service simply because Internet relies upon a different technology to transport voice
- FCC orders and the Act's definitions provide a short term solution for the Internet telephony issue; additionally, the public interest does not justify a discriminatory interstate access price structure for ESPs
- Any transmission of information without change in format or content, as sent or received, constitutes telecommunications under the Act
- This definition is competitively neutral because it does not depend on, or reference any specific technologies
- Under this definition, Internet telephony should constitute telecommunications because the user has directed the points between which the transmission should occur and voice has been sent and received

- Internet telephony does not meet the Act's definition of an information service because the transaction does not change content or result in the interaction of stored information as a standalone feature; if these functions occur, they occur for purposes of transmitting and receiving a call and not for purposes of providing an information service
- Any provider of telecommunications to the public for a fee is a telecommunications carrier (with exceptions noted in the Act)
- Internet Service Providers that offer telephony on an interstate basis over the Internet for a fee should be considered telecommunications carriers and are required to contribute to federal universal service mechanisms in compliance with Section 254(d)
- An Internet Service Provider that offers telephony as a telecommunications carrier is also an information service provider when it offers services that meet the information services definition contained in the Act
- The FCC's September 4, 1992 order in CC Docket No. 86-1 recognized that an entity may be a carrier when it provides telecommunications services and an enhanced service provider when it provides enhanced services

- ESP exemption should be replaced with an interstate access price structure that encourages carriers to deploy data network alternatives and most importantly, financially motivates ESPs to make the most efficient service selections
- Information Service Providers and providers of other types of non-telecommunications services, by definition, do not qualify for universal service support under Section 254(e) or Section 254(h)
- Internet Service Providers that offer telecommunications services may also receive universal service support when they are designated eligible telecommunications carriers under Section 214(e) or if they are a telecommunications carrier providing universal service to qualifying schools and libraries under Section 254(h)
- SBC appreciates this opportunity to exchange ideas about how to ensure that affordable universal service is maintained as markets become more competitive and as technologies continue to change



IAN EDWARD DIX

VICE PRESIDENT OF LARGE ACCOUNT MARKETING LCI INTERNATIONAL, INC.

lan Edward Dix, who joined LCI in July of 1997 as vice president of large-account marketing, is an information technology veteran with more than 17 years of experience at leading telecommunications and technology companies.

At LCI, Mr. Dix guides the company's development and execution of marketing programs for its national and large account customers, which include leading financial institutions, manufacturers and other members of the *Fortune 1000*. He is also tasked with the responsibility of helping expand LCI's portfolio of data, network and Internet services.

Before joining LCI, Mr. Dix served as executive vice president of marketing for XLConnect Solutions, Inc., a provider of computer professional services. During his tenure, he was responsible for a number of national marketing programs including creation of the company's first suite of intranet services.

Previously, Mr. Dix held a number of management positions with MCI and played a vital role in supporting the company's Internet and new media marketing initiatives. In his last position, he served as national director of Internet services marketing and was responsible for the conception and execution of InternetMCI and NetworkMCI Business services.

Mr. Dix holds a bachelor of science degree in communications from the University of Houston.

###

Tom Evslin ITXC Corp Chairman, CEO

After working in computer communications for Equitable Life and Union Carbide, Tom founded and managed Solutions, Inc., a software development and marketing company in Vermont in 1972. AT&T and Microsoft were both significant customers. The software was primarily for networking and connectivity. Solutions, Inc. developed the first background fax software for the personal computers and during the 1970's, developed the leading mainframe software to connect banks to automated clearing houses. During 1980 and 1981, Tom served as the Secretary of Transportation for the State of Vermont.

From December 1991 to May 1993, Tom was the Director of Connectivity for the Microsoft Corporation in Vancouver, British Columbia. He was responsible for Microsoft Mail, Microsoft Mail Remote, and all gateways.

In May 1993, Tom became the General Manager, Server Applications Division in Redmond, Washington. He was responsible for the development and marketing of all communications products in the BackOffice Suite including Microsoft Mail, Schedule+, Microsoft Exchange, System Management Server and SNA Server.

In December 1994, Tom joined AT&T, where he led the formation of AT&T's Internet access services, including dial access for AT&T WorldNet service, a consumer service, as well as two business services, AT&T WorldNet managed Internet Service and AT&T WorldNet intranet Connect Service.

In July 1997, Tom and AT&T announced that he was leaving AT&T to become Chairman and CEO of ITXC corp. ITXC is in the business of Internet Telephony. At the same time AT&T and VocalTec announced initial funding for ITXC Corp.

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.

701 Pennsylvania Avenue, N.W. Washington, D.C. 20004

One Financial Center Boston, Massachusetts 02111 Telephone: 617/542-6000 Fax: 617/542-2241 Telephone: 202/434-7300 Fax: 202/434-7400 Telex: 753689

Direct Dial Number 202/434-7305

HOWARD J. SYMONS

Howard J. Symons is a partner in the Washington, D.C. and Boston law firm of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, where he leads the firm's telecommunications practice. He has represented major wireless, cable, and long distance companies, and their trade associations, in regulatory and legislative matters, including the drafting and implementation of the Telecommunications Act of 1996.

Prior to joining the firm in 1985, he served as Senior Counsel to the Subcommittee on Telecommunications in the U.S. House of Representatives. During his four years in that capacity, Mr. Symons was responsible for the development of legislation on matters ranging from domestic telephone policy to cable franchising and international telecommunications. He served as one of the principal drafters of the Subcommittee's legislative response to the AT&T divestiture and other common carrier measures, as well as the Cable Communications Policy Act of 1984. He was also responsible for the Subcommittee's oversight of Federal Communications Commission activities in the areas of telephone and cable policy.

From 1978 to 1981, Mr. Symons was a staff attorney with Public Citizen's Congress Watch, a public interest group founded by Ralph Nader. While at Congress Watch, he was responsible for telecommunicationspolicy issues.

For ten years, Mr. Symons was an Adjunct Professor at the National Law Center of George Washington University, where he taught a course in telecommunications law and regulation. He is the author of "The Communications Policy Process," in New Directions in Telecommunications Policy (Duke University Press, 1989), and a co-author of Telecommunications in Transition: The Status of Competition in the Telecommunications Industry (1981).

Mr. Symons received his B.A. <u>summa cum laude</u> from Yale University and his J.D. from Harvard University. He, his wife JoAnn, and their children, Benjamin and Caroline, live in Bethesda, Maryland.

DCDOCS: 11032.1 (8\$g01!.doc)

Statement of Howard J. Symons on behalf of The National Cable Television Association FCC En Banc Hearing on Universal Service - February 19, 1998

On behalf of the National Cable Television Association, I would like to thank you for including us on the program today. Cable is an active participant in providing universal service to schools and libraries. The ability of cable operators to provide such services has been enhanced by the Commission's correct interpretation of the definitions added by the 1996 Act and by its decision to establish a competitively neutral universal service mechanism. As providers of telecommunications services, cable operators and their affiliates already contribute significantly to the universal service fund. These contributions will grow as cable's telecommunications offerings grow. As a historical note, however, it is worth recalling that even prior to the 1996 Act the companies receiving universal service support were not always the same companies contributing to the fund.

NCTA is the principal trade association of the cable television industry in the United States, representing cable television operators serving over 80 percent of the Nation's cable television households and more than 100 cable programming networks. Through its Cable in the Classroom program, NCTA's members have brought news, public affairs, and educational programming to schools and libraries since 1989. Cable companies also pioneered distance learning services and, more recently, have begun to provide schools and libraries with high-speed access to the Internet.

As of September 1997, cable operators had connected over 1000 schools to the Internet.

On Long Island, New York, Cablevision Systems provided more than 30 schools with free highspeed Internet access, offering teacher training and connecting multiple workstations through the

school's networks as well. In Escambia County, Florida, Cox Communications worked with the school district's existing technology to build a distance learning network with a local university, connect eight schools to the Internet and centralize information management systems. Comcast has provided high-speed Internet access to 175 schools, and will connect 250 libraries in the next four years. In Michigan's Upper Peninsula, small operator Bresnan Communications built a 105-mile fiber optic network connecting six school buildings and the local community college. Cable Television: Connecting Classrooms to the Future, attached to my statement, describes cable's education initiatives. These initiatives will be enhanced by the regulatory structure adopted by the Commission in the Universal Service Order.

Congress has asked the Commission to review its implementation of the universal service provisions of the Telecommunications Act of 1996, including its interpretation of certain terms added to the Communications Act by the 1996 Act. It is important to keep in mind, however, that Congress did not direct the Commission to revise its policies and rules regarding universal service or to extend its current system for regulating telecommunications to Internet access or other on-line services. NCTA believes that the Commission's interpretations of these terms are consistent with the plain language of the Communications Act and will advance Congress's goals of providing access to advanced telecommunications and information services throughout the United States at just, reasonable, and affordable rates.

As part of Congress's general effort to update the Communications Act of 1934, the 1996 Act added new definitions to the statute, including definitions for "information service," "telecommunications," and "telecommunications service." "Telecommunications" is the transmission of information of a user's choosing between two points, without any change in the form or content of the information. When "telecommunications" is offered to all users

indifferently or to such segments of the public as to be effectively available to the public indifferently, then it is "telecommunications service." In contrast, a service is an "information service" when it offers the capability for "generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications."

While providers of these services today use telecommunications to deliver service to end users, that, in and of itself, does not transform an information service into a telecommunications service.

In the <u>Universal Service Order</u>, the Commission correctly concluded that Internet access services are not telecommunications services. This decision is consistent with the plain language and legislative history of the Communications Act, which borrowed heavily from the definitions used in the Modification of Final Judgment. Congress distinguished between information services and telecommunications services to reflect the distinction set forth in the MFJ between those services that offer pure transmission capacity and others that somehow enhance that transmission capacity even if there is no change in the information being transmitted. This distinction is a logical extension of the dichotomy between "basic" and "enhanced" services articulated in the Commission's <u>Computer II</u> proceeding. By adopting the telecommunications/information services distinction of the MFJ, the 1996 Act codifies these traditional distinctions between passive conduit and active manipulation and content delivery.

The Commission's decision not to classify Internet access services as telecommunications services reflects the policy of the United States, articulated in section 230 of the Communications Act, to promote the development of the Internet in a free market "unfettered by Federal or State regulation." Reclassifying Internet access and other services as "telecommunications" in order to bring them within the contribution requirement could

unnecessarily subject these services to regulation as common carriers, a development that could devastate the growth of Internet services and prove to be highly unenforceable, with no corresponding consumer benefit.

Congress also asked the Commission to review its decisions regarding the entities that are required to contribute to universal service under section 254(d) of the Act as well as those that are eligible under sections 254(e), 254(h)(1) and 254(h)(2) of the Act to receive specific Federal universal service support. The Commission correctly determined that all providers of advanced telecommunications and information services to schools and libraries under section 254(h)(2) are eligible to receive universal service funds.

Section 254(e) is part of a carefully-structured scheme intended to limit eligibility for the universal service support provided in connection with basic telecommunications services.

Congress sought to ensure that only carriers willing to provide basic services throughout a given area would qualify for basic service support and section 254(e) therefore limits support for basic telecommunications services to these "eligible telecommunications carriers."

Section 254(h)(2)(A), in contrast, requires the Commission to establish "competitively neutral rules to enhance . . . access to advanced telecommunications and information services" for schools, libraries, and health care providers. The limitation in section 254(e) does not apply to the provision of access to advanced telecommunications and information services under section 254(h)(2). Moreover, the statutory requirement for competitive neutrality prevents the Commission from limiting eligibility for universal service support to common carriers or their affiliates.

The competitively neutral universal service mechanism the Commission established is not only consistent with the plain language of the statute, it also promotes sound policy. The

broad eligibility that follows from competitive neutrality will allow schools and libraries to choose from the widest array of providers of advanced services and ensure that they have access to such services in the most cost-effective manner. Often, the most efficient provider of access may not be a telecommunications carrier. Cable operators, on-line service providers, and other entities that are not common carrier affiliates may be able to offer access with greater bandwidth capacity at a lower cost than access offered by telecommunications carriers. For example, cable modems can provide Internet access at speeds up to 50 times faster than conventional phone lines and significantly faster than the expensive high capacity ISDN lines currently being marketed by telephone companies. In one case in Nebraska, Galaxy Cablevision was able to provide distance learning capabilities for 30 percent less than the price quoted by the local telephone company. Broad-based eligibility for universal service funds enabled these schools to obtain access to advanced services for less money.

The Commission's decision that non-telecommunications carriers such as cable operators and on-line service providers are eligible for funding under subsection 254(h)(2) is not inconsistent with its decision that only telecommunications carriers and other providers of interstate telecommunications are required to contribute to universal service support. The 1996 Act does not say that only those who pay in to universal service may take out. Indeed, such a requirement would be inconsistent with the idea of a universal service system in which the costs of universal service have been borne historically by customers and carriers who do not receive universal service funds. The universal service mechanism in place before the 1996 Act required long distance carriers and customers to pay into a fund whose recipients were local telecommunications carriers and customers. Even among local telephone companies, carriers

and customers in lower cost areas participated in a cost pool that benefited carriers and customers

in high cost, rural areas.

In any event, an increasing number of cable companies and their affiliates engaged in

providing telecommunications services are already contributing to the universal service fund.

These contributions will only increase. Teleport Communications Group, in which several cable

companies hold significant investments, makes a substantial contribution to the fund.

Significantly, the Commission does not require cable companies, on-line service providers, or

telecommunications carriers to contribute to federal universal service support based on their

provision of Internet access services.

The <u>Universal Service Order</u> got it right. In its report to Congress, the Commission

should affirm that Internet access is not telecommunications and that all providers of advanced

telecommunications and information services are eligible to receive universal service funds.

These decisions are consistent with the plain language of the Communications Act and will

further the statutory goals of the universal service provisions.

Thank you again for the opportunity to appear today.

DCDOCS: 123469.1 (2n9p01!.doc)

6

John T. James 503 East 13th Street West Point, Nebraska 68788 (402) 372-5773

EDUCATION:

UNIVERSITY OF NEBRASKA, Omaha, Nebraska: Ed.D. Educational Administration, expected May 1999

CREIGHTON UNIVERSITY, Omaha, Mobraska Administrative Certification, June 1995.

UNIVERSITY OF SAINT THOMAS, Houston, Texas, M.A. Secondary Education, July 1994

RICE UNIVERSITY, Houston, Texas B.A. Biochemistry and Religious Studies, May 1989.

EMPLOYMENT:

CENTRAL CATHOLIC HIGH SCHOOL, West Point, Nebraska

Principal / Superintendent. Perform all executive administrative functions related to running of the school including budget preparation, financial planning and development, evaluation and supervision of the school faculty and staff, student descipline, community relations, curriculum and staff development.

Teacher. Teach Chemistry as an Adjunct Professor of Conighton University. Ceach. Ceach Boy's Golf.

July 1996 - Present

NORTHEAST COMMUNITY COLLEGE, Norfolk, Nebraska

Adjunct Professor. Taught general chemistry on the compus of Northeast Community College.

Summer 1997

SKUIT CATHOLIC HIGH SCHOOL, Owaha, Nebraska.

Department Chairman. Compiled and managed the science budget, wrote science curriculum, and assisted in the himng and mentoring of new faculty.

Teacher: Courses taught include Advanced Chemistry, Chemistry, Biology, and Religiou. Coached Varsity Boy's Baskethall, Varsity Girl's Golf, Freshman Girl's Volleyball, and Freshman Boy's Baseball.

August 1993 - July 1996

STRAKE JESUTT HIGH SCHOOL, Houston, Texas

Teacher: Courses taught include A F Biology, Advanced Chemistry Biology, Physical Science, and Religion.

Coach. Coached Freshman Boy's Basketball and Baseball.

August 1989 - August 1993

BAYLOR COLLEGE OF MEDICINE, Houston, Texas.

Research Assistant Successfully purified protein kinase C from rat brains for research on the phosphorylation of topousomersus: Il Successfully assayed acetyl cocuzyme A carboxylane and purified fluoresulfonylbenzoic adenosine (FSBA) from dimethyl sulfoxide (DMSO) for inhibition studies.

Summers of 1987, 1989.

AN ARDS:

Presidential Award for Excellence in Science Teaching - Numinee

Catholic Educator Scholarship, Circighton University Grade Based Scholarship, University of St. Thomas

Baker College Fellow, Rice University

ACTIVITIES & ORGANIZATIONS: Phi Delta Keppa

Prosidential Blue Ribbon Schools - Site Visitor

North Central Association of Schools Accreditation - Site Visitor

Educational Service Unit #2 Advisory Control Board Southeast Nebraska Distance Learning Consortium Northeast Nebraska Distance Learning Consortium Association for Supervision and Curriculum Development National Association of Secondary School Principals

Northeast Nebraska Association of Secondary School Principals and Superintendents

grade e

National Catholic Educators Association

Knights of Columbus Optimists International

VOLUNTEER WORK: Director, Teems Encounter Christ Retreat Program, 1996

Adult Leader, Youth Ministry, 1990-1998

Adult Leader, Christian Leadership Institute, Summers 1994-96 Site-Director, Omaha Archdiocesan Youth Conference, Full 1994 Parish Council Secretary, Notre Dame Catholic Church, Fall 1991-93.

OTHER INTERESTS: Hiking and Camping

4 4 ARDS:

Presidential Award for Excellence in Science Teaching - Nominee

Catholic Educator Scholarship, Creighton University Grade Based Scholarship, University of St. Thomas

Baker College Fellow Rice University

ACTIVITIES & ORGANIZATIONS: Plu Delta Kappa

Presidential Blue Ribbon Schools - Site Visitor

North Central Association of Schools Apprelitation - Site Visitor

Educational Service Unit #2 Advisory Control Board Southeast Nebraska Distance Learning Consortium Northeast Nebraska Distance Learning Consultium Association for Supervision and Curriculum Development National Association of Secondary School Principals

Morthaust Nabraska Association of Secondary School Principals and Superintendents

National Catholic Educators Association

Enights of Columbus Optimists International

VALUNTEER WORK: Director, Toma Encounter Christ Retreat Program, 1996

Adult Leader, Youth Ministry, 1990-1998

Adult Leader, Christian Leadership Institute, Summers 1994-96 Site-Director, Omeha Archdiocesan Youth Conference, Full 1994 Parish Council Secretary, Notre Dame Catholic Church, Fall [99]-93.

OTHER INTERESTS: Hiking and Camping